

AMENDMENT UNDER 37 C.F.R. § 1.114(c)

U.S. Application No. 10/665,149

Attorney Docket No. Q77106

REMARKS

The present Amendment Under 37 C.F.R. § 114 is submitted with a Request for Continued Examination. Claims 1-8, 38, 41-42 and 44-45 are all the claims pending in the application.¹ Claims 1 and 38 are amended. No new matter is presented.

Claims 1-3, 5, 38, 41 and 42 have been rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Takahashi (U.S. Patent No. 6,419,336), claim 4 has been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Takahashi in view of Murayama et al. (U.S. Patent No. 6,130,700, hereinafter “Murayama”), and claims 6-8, 44 and 45 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Takahashi in view of Kubo (U.S. Patent No. 6,257,688). The outstanding rejections are addressed below.

Claim Rejections - 35 U.S.C. § 102(e)

As noted above, claims 1-3, 5, 38 and 41-42 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Takahashi. Applicant respectfully traverses and submits that Takahashi fails to reasonably teach or suggest all the features of these claims, as evidenced by the following.

With respect to independent claims 1 and 38, Applicant respectfully submits that Takahashi cannot properly be relied upon to teach or suggest all the claim limitations, *at least* for the following reasons. In this regard, Applicant notes that claims 1 and 38 respectively define an ink jet recording apparatus comprising, *inter alia*, a data developer for developing print data into

¹ Applicant notes that the Advisory Action of January 20, 2006 indicates that Applicant’s Amendment Under 37 C.F.R. § 116, filed December 22, 2005 was entered.

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multi-bit jetting data; a drive signal generator for generating a *drive signal* including a plurality of *drive pulses*, on every unit print cycle; a translator for translating the multi-bit jetting data into pulse select information associated with the respective *drive pulses*; a drive pulse supplier for *selectively supplying at least one of the drive pulses* to the pressure generating element in accordance with the pulse select information to drive the pressure generating element. Further, claims 1 and 38 recite a basic recording mode, a high resolution recording mode, and a mode selector for selecting one of plural recording modes including the basic recording mode and the high-resolution recording mode. In addition, claims 1 and 38 require “the *same drive signal* is used in each of the basic recording mode and the high resolution recording mode.”

Thus, claims 1 and 38 clearly require that the same drive signal, which is generated by the drive signal generator so as to include drive pulses on every unit print cycle, is used in each of the respective (i.e., basic and high-resolution) recording modes. As demonstrated below, Takahashi clearly fails to suggest *at least* this feature. For instance, the Examiner asserts that the drive signals 1T and 0.5T shown in Figures 5A and 5B of Takahashi are commonly used in the different recording modes. *See* Final Office Action dated September 15, 2005 at page 5. However, the alleged “drive signals” 1T and 0.5T cannot properly be identified with the claimed drive signal. Rather 1T and 0.5T are simply pulses and are not the “same drive signal”. *See* Takahashi at col. 8, lines 26-53.

For example, Takahashi teaches that the drive waveforms for the normal and first and second high-resolution mode are clearly different, as is plainly evident from Figures 5A-5C, which shows the distances between pulses and the widths of the pulses for each of the resolution modes. Further, the individual drive pulses cannot of Takahashi’s waveform cannot properly be

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interpreted as a “drive signal”, because claims 1 and 38 clearly define the drive signal as “including a plurality of drive pulses” on every unit print cycle. Conversely, the pulses 1.0T and 0.5T merely represent pulse widths which are common to both the normal resolution and the first high-resolution recording modes of Takahashi.

Further, the waveform or drive signal used for each of Takahashi’s two recording modes is clearly different, as shown by the varying pulse widths, and the distances between the pulses in Takahashi’s normal and first high-resolution recording modes. Thus, Takahashi cannot properly be relied upon to suggest the use of the same drive signal for each of the claimed recording modes.

Indeed, as discussed above, each of the *entire* signals shown in Figures 5A to 5C of Takahashi must be regarded as a “drive signal” for each unit print cycle, not disembodied pulses which are taken out of context of the different waveforms. These different waveforms cannot correspond to the “same drive signal”, as claimed. Thus, Takahashi fails to teach all the limitations of claims 1 and 38.

In view of the foregoing, Takahashi cannot properly be relied upon to teach or suggest all the limitations of claims 1 and 38. Accordingly, reconsideration and withdrawal of the rejection of these claims is requested.

Further, with respect to claim 38, Applicant again submits that Takahashi fails to teach or suggest at least the feature of “the number of gradation levels that can be recorded in the basic recording mode is larger than the number of gradation levels that can be recorded in the high-resolution recording mode”, as defined by claim 38. Applicant previously pointed out in the

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Amendment of December 22, 2005 that Takahashi was deficient in this regard. *See* Amendment at pages 13-14.

In the grounds of rejection, the Examiner alleges that col. 9, lines 61-63 of Takahashi teaches this limitation. *See* Office Action dated September 15, 2005 at page 4. Applicant notes that this passage merely states: “In the normal resolution mode, three or more ink droplets might, in place of two, be ejected for on dot. In this case as well, it is possible to form a thicker image.” *See* Takahashi at col. 9, lines 61-63. However, even if the number of ejection pulses contained in the drive signal is increased along with the Examiner’s assertion, the number of gradation levels **cannot be increased**.

As discussed above, at least one of the drive pulses cannot be selectively supplied to the pressure generating element. Rather, Takahashi teaches that the *entire drive signal* is supplied, with different drive signals being supplied for each of the respective recording modes. The number of gradation levels that can be recorded in each of the recording modes shown in Figures 5A and 5C of Takahashi is simply *two* (i.e., record or non-record). By increasing the number of drive pulses contained in the drive signal, what is increased is the optical density of a recorded dot due to the number of ejections performed in the unit ejection operation. This is represented by the term “thicker image” in Takahashi. The Examiner has provided no basis for concluding that additional pulse ejections would necessarily provide any different gradation. Indeed, as previously noted, the number of gradation levels in Takahashi does not change in the normal resolution mode and the high-resolution modes, and Takahashi cannot properly be interpreted as teaching the feature of “the number of gradation levels that can be recorded in the basic

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recording mode is larger than the number of gradation levels that can be recorded in the high-resolution recording mode”.

Applicant respectfully submits that the Examiner has not properly addressed the substance of the above argument, as presented in the previous Amendment. Rather, the Examiner’s assertion that other arguments were previously addressed, as alleged in the Advisory Action, is not responsive to Applicant’s argument that merely providing an increased number of pulses cannot properly be considered to anticipate the feature of different gradation levels, as claimed. Applicant therefore renews this argument and submits that the feature of “the number of gradation levels that can be recorded in the basic recording mode is larger than the number of gradation levels that can be recorded in the high-resolution recording mode” is not suggested by Takahashi.

In view of the foregoing, claims 1 and 38 are believed to be allowable *at least* for the reasons discussed above. Further, dependent claims 2-8, 41-42 and 44-45 are believed to be allowable at least by virtue of depending from claims 1 and 38. Accordingly, allowance of claims 1-8, 38, 41-42 and 44-45 is requested.

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Claim Rejections - 35 U.S.C. § 103

Claim 4 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Takahashi in view of Murayama. Without commenting substantively on the grounds of rejection, Applicant submits that claim 4 is allowable at least by virtue of depending from claim 1.

Claims 6-8, 44 and 45 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Takahashi in view of Kubo. Without commenting substantively on the grounds of rejection, Applicant submits that claims 6-8, 44 and 45 are allowable at least by virtue of depending from claims 1 and 38, respectively.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, *the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.*

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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